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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,998	03/05/2002	Yoshihiro Izumi	1035-368	4450

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EXAMINER

NGUYEN, VINCENT Q

ART UNIT PAPER NUMBER

2858

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

22

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/087,998	IZUMI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vincent Q Nguyen	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 3/15/2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 7-15, 17-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Suga (6,234,031).

Regarding claim 1, Suga discloses a device comprising (Figures 6, 7) scanning lines (113) and signal lines (114) formed on a substrate (101) in a grid pattern; switching elements (110) formed on the substrate (101) in each grid and connected to the scanning lines (113) and the signal lines (114); an insulating film (102), formed on the substrate (101) so as to at least partially cover the switching elements (110), having contact holes each of which is a perforation (Figure 3); sense electrodes (103) formed

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on the insulating film (102) and connected to the switching elements (110) via the contact holes; and a protective film (107) formed on the insulating film (102) so as to cover the sense electrode (103), wherein an entire upper surface of the insulating film (102) is flat except for areas proximate the contact hole (See figure 6).

Regarding claim 2, Suga disclose the surface (surface of element 102) on which the sense electrode (103) is formed is flat when the insulating film (102) is formed.

Regarding claim 3, Suga discloses the insulating film is formed by application of an insulating material (This is not only for prior art of Suga but also true for every prior art of fingerprint e.g. element 721, figure 4).

Regarding claims 7, 8, Suga discloses (Figure 5) the sense electrode (812) is provided so as to be overlapped with at least either one of the scanning lines and the signal lines and switching elements (See figure 8B).

Regarding claim 9, Suga discloses a shade film (105) is provided on the switching element (110).

Regarding claims 10, 11, Suga discloses the sense electrode (103) and insulating (102) has shading property (Almost every material has shading property).

Regarding claim 12, Suga discloses an auxiliary electrode (Finger) (See also figure 1) for forming capacity with the sense electrode (103) (Electrode 512 figure 1).

Regarding claim 13, Suga discloses an auxiliary capacity (Finger) which is formed with either one of the sense electrode (the electrode at 519 points to) and an electrode (512) having a same electrical potential (512 and 519 having the same

potential) as the sense electrode (512) is provided in a layer under the insulating film (605) (Figure 2).

Regarding claim 14, Suga disclose the substrate (101) is an insulating property (Most substrate is insulating property, if not, all of the conductive elements on it is short circuit).

Regarding claim 15, Suga discloses the substrate is a glass substrate (Column 8, line 1).

Regarding claim 17, Suga discloses (Figure 7) at least either one of a drive circuit (115) for applying a drive signal to the scanning lines (113) and a sense circuit (103, 109, 106, 110) for sensing a signal from the signal lines (114) is directly mounted on the glass substrate (Figure 6).

Regarding claim 18, Suga discloses circuit (115) for applying a drive signal to the scanning lines (113) and a sense circuit (103, 109, 106, 110) for sensing a signal from the signal lines is monolithically (Column 3, line 22) formed on the glass substrate (101).

Regarding claim 19, Suga discloses the drive circuit (115) and the sense circuit are made of polysilicon.

Regarding claim 20, Suga discloses the protective film is made up of a dielectric film having a relative permittivity not less than 5 (Column 11, 53-55; column 12, lines 58-60).

Regarding claim 21, Suga discloses the protective film is made of polysilicon (Column 12, 40-67).

Regarding claim 22, Suga discloses the protective dielectric film is made up of dielectric film having a relative permittivity of (30) (Column 12, lines 40-52) not less than 10.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga (6,234,031).

Regarding claims 23-25, Suga does not disclose the protective film includes a matter selected from the group consisting of  $Ta_2O_5$ ,  $TiO_2$ ,  $SrTiO_3$ ,  $BaTiO_3$ , and  $Ba_xSr_{1-x}TiO_3$ ; or made up of a Fluoresin; or formed by a dry transferring method. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate material such as  $Ta_2O_5$ ,  $TiO_2$ ,  $SrTiO_3$ ,  $BaTiO_3$ , and  $Ba_xSr_{1-x}TiO_3$ ; or made up of a Fluoresin, into the system of Suga because Suga taught that (column 12, lines 20-67) the deformation layer is requires to be sufficient soft when compare with skin of a finger, if material has hardness exceeds 30 in the JIS hardness, the fingerprint pattern became unclear.

Regarding claim 26, Suga does not disclose the upper surface of the insulating film (102) is characterized by differences in level no greater than  $0.5\mu m$ .

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the upper surface of the insulating film (102) is characterized by differences in level no greater than  $0.5\mu\text{m}$ , because Suga taught that "when the thickness gate insulating film was reduced from  $10\mu\text{m}$  by  $1\mu\text{m}$  to  $9\mu\text{m}$  while the current value specified as above is maintained as a fixed current value, the gate voltage changed from 5V to 4.7, and consequently, a sufficiently great voltage variation of 260 mV was obtained" (Column 17 =, lines 57-67; column 18, lines 1-10).

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga (6,234,031) in view of Pires (6,411,726).

Regarding claims 4, 5, Suga does not the insulating film is made of an organic matter. Pires discloses a device similar to that of Suga and further discloses insulating film (68) is made of an organic matter (Pires's column 4, lines 44-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize the desirability of modifying Suga to incorporate an insulating, which is made of an organic matter as taught by Pires into the system of Suga because it would have been desirable to produce a fine line image of the fingerprint (Pires's column 4, lines 51-54).

Regarding claim 6, the only difference between Suga and Pires and the invention claim is that the claim recites the insulating has thickness between  $1\mu\text{m}$  and  $5\mu\text{m}$  while Suga and Pires are between  $1\mu\text{m}$  and  $10\mu\text{m}$ .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize the desirability of modifying Suga and Pires to incorporate the thickness of the insulating film between 1 $\mu$ m and 5 $\mu$ m into the system of Suga and Pires since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. MPEP 2144.05 *In re Aller*, 105 USPQ 233.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suga (6,234,031) in view of Nakashima et al. (5,916,735).

Regarding claim 16, Suga does not disclose the substrate is made of plastic. Nakashima et al. discloses method for manufacturing fine pattern and further discloses a substrate is made of plastic for the purpose of reducing the size and weight of the device (Nakashima et al.'s column 2, lines 43-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a substrate made of plastic into the system of Suga because Nakashima et al. taught that using plastic substrate would reduce the size and weight for the device.

### ***Response to Arguments***

7. Applicant's arguments filed 3/15/2004 have been fully considered but they are not persuasive.

In response to Applicant argument that: "Suga does not disclose or suggests that the top surface of film 102 is flat. To the contrary, the top surface of Suga's film 102



will be non-flat because of the array of protruding electrodes 103 located thereunder.”

Applicant also relies on figure 8A for his argument.

It is noted that, figures 6-7 were applied on the rejection (e.g. claim 1) and contrary to Applicant's argument, Suga does disclose “the upper surface of the insulating is flat” (See figure 6) in spite of whether electrode 103 located thereunder.

In response to Applicant argument that Suga's layer 102 has no contact holes defined therein.

It is noted that the prior art of figure 3 discloses layers, which have many contact holes.

In response to Applicant's argument that Figs. 6-7, Suga forms a capacitive element 109 by a detection electrode 103 and a flexible electrode 106. Hence, the technique for detection in Suga is different from that of certain example non-limiting embodiments of this invention.

Examiner does not see why the capacitive element 109 by a detection electrode 103 and a flexible electrode 106 are differed from embodiments of the invention application.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

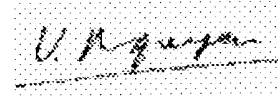
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Contact Information**


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on Mon-Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Vincent Q. Nguyen



April 14, 2004



JAY PATIDAR  
PRIMARY EXAMINER